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Nursing interventions in preventing obstetric fistula in adolescents in East Africa

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Laurea University of Applied Sciences **Abstract**

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Women in developing countries, particularly young girls experience difficult childbirth which results in the loss of their babies and a significant injury to their sexual and reproductive organs, a condition called obstetric fistula. According to the World Health Organization, an estimated 2 million women in sub-Saharan Africa, Asia, the Arab region, and Latin America and the Caribbean are living with this injury, and some 50,000 to 100,000 new cases develop each year. Statistics from United Nations Population Funds (UNFPA) presents that nine out of ten births are from adolescent girls and these births occur with a marriage or a union. Cultural practices of early marriages and early deliveries present a major risk factor for the development of obstetric fistula (OF) as a result of obstructed labour. Sub-Saharan Africa has the highest prevalence of teenage pregnancies in the world. Births to teenage mothers account for more than half of all the births in the region with an estimate of 101 births per 1000 women aged 15 to 19.

The purpose of this thesis was to describe nursing interventions that have been and could be used in the prevention of obstetric fistula in adolescents in East Africa. Literature review methodology was used. 16 articles were retrieved from EBSCOHOST and PROQUEST databases by use of inclusive and exclusive criteria. Inductive content analysis was used to analyse the data which gave rise to several sub-categories and further narrowed to two main categories for interventions which have been done and two main categories for interventions which could be used to prevent OF in adolescents.

The results showed that although there has been efforts to prevent obstetric fistula, more resources are aimed at treatment and management of obstetric fistula among women, not adolescents as a high-risk group. Findings also indicate that there is need to educate more nurses and midwives specialized in fistula prevention. There were also recommendations of what should be done in the prevention of obstetric fistula. Preventive measures for obstetric fistula should aim for root causes which provide long-term and sustainable solutions.

Further research is recommended on obstetric fistula prevention in adolescents, defining the role of nursing intervention as an important component.

Keywords: nursing interventions, obstetric fistula, adolescents and East Africa

Terefa's story

Terefa is fourteen years old. She lives in a small village in Africa, more than 200 km from the country's capital. She is the sixth child in a family of eight children and has never been to school. Her father, a farmer, did not have enough money to send all of his children to the village school. The older children—two boys—thus benefited from schooling, while Terefa stayed at home to help her parents to survive. Her chores were to gather firewood, draw water and help work the fields. When she was thirteen, her father married her to one of his friends who was a little better off. Terefa could only accept this marriage and, a few months later, she became pregnant. Throughout her pregnancy she continued working, as if nothing had changed. The closest antenatal clinic was a few dozen kilometres from her house, but she didn't go to it because she didn't have money to pay for transport. Also, everyone in the village said that pregnancy was not an illness and that the other women had always given birth without any problems, so why shouldn't she?

Teresa's husband and mother-in-law let the village traditional birth attendant know when labor started. The contractions became more and more violent, and more and more painful, but the baby did not seem to want to come out. Terefa saw the sun rise and set three times. She was exhausted by the long ordeal. The village birth attendant tried to speed up events, first with herbal potions, then by inserting various substances into the vagina and, finally, by making incisions with a rusty knife in her vagina, but nothing worked.

The village elders then met to take a decision: Terefa had to be sent to the health-center. It took several hours to collect the necessary money, transport Terefa in a cart to reach the road and find a driver to take her to the town. Terefa was afraid, for she knew no one there and wondered how she, a simple peasant, would be received.

At the health centre she was examined by a midwife. The midwife was not happy that Terefa had come so late and told her that the baby was dead, but that an operation was required. As the doctor who performed caesarean sections was away for several days for a training course, she had to go to another hospital.

*After the operation, Terefa realized that she couldn't retain her urine. Back at the village she was ashamed because she had lost her child, was constantly wet and continually gave off the smell of urine. Seeing that the situation did not improve, her husband rejected her and chose another wife and, little by little, the entire village turned its back on her. Since then Terefa and her mother have lived in a tent at the edge of the village. The two women subsist on charity, but Terefa's health is becoming a little more precarious every day. No one knows how much longer she will survive (*World Health Organization 2006).

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1 Introduction

Many young girls in developing countries experience life after a difficult childbirth as highly painful and traumatic. After such traumatic experience, their lives become defined by suffering and personal embarrassment because of a medical condition known as obstetric fistula (OF). According to the World Health Organization (WHO), 'An estimated 2 million women in sub-Saharan Africa, Asia, the Arab region, and Latin America and the Caribbean are living with this condition, and some 50,000 to 100,000 new cases develop each year' (WHO 2017). Every year, under the leadership of the United Nations Population Fund (UNFPA) the 23rd of May is dedicated to activities and actions undertaken to mark the "International Day to End Obstetric Fistula." This is a global effort to draw attention to the magnitude of this condition and its social consequences on women and families in developing countries.

Terefa's story illustrates obstetric fistula to occur when a problematic child-birth results in a significant injury to the woman's sexual and reproductive organs. In such instances the post-partum condition is that she is no longer capable of controlling how her urinary tract works because there is "a hole between the birth canal and bladder or rectum caused by prolonged, obstructed labour, without access to timely, high-quality medical treatment" (UNFPA 2017). Clearly, under such conditions the medical outcomes are infections resulting from the "leaking of urine, faeces or both" into the woman's vagina. In professional terms this foul smell is called chronic incontinence (Danso, Martey, and Wall 1996). But as the UNFPA also indicates, there are very serious social impacts associated with chronic incontinence from obstetric fistula. These largely have to do with "depression, social isolation and deepening poverty" (UNFPA 2017). As Terefa's story shows, her "rejection" by her husband was due to her "smell of urine" but it led to great shame for her, isolating her and her mother to "the edge of the village." Taken together, both the physical and psychosocial trauma resulting from obstetric fistulas have been described as an "obstructed labor injury complex" (Wall 2012).

This thesis describes the different modes of nursing interventions undertaken through health policies and initiatives to address this problem among adolescents in East Africa (EA). This is because the weight of this medical condition on women's sexual and reproductive health, including their sexual and human rights, cannot be overemphasized given how such rights are at the core of the social and economic welfare of women across the world today. If obstetric fistula is a condition that affects women's overall sexual and reproductive rights and well-being, it is important to study and underline the different policy and programmatic initiatives and actions undertaken by public health authorities, whether national or local, to address this problem. This is especially the case for East Africa where there seems to be a high prevalence of obstetric fistula cases affecting the lives of young women (Raassen, Verdaasdonk and Vierhout 2008).

2 Purpose and Research Question of this thesis

The purpose of this thesis is to describe nursing interventions used in the prevention of obstetric fistula in adolescents in East Africa.

The research questions:

- What kind of nursing interventions have been used to prevent obstetric fistula (OF) in adolescents in East Africa (Ethiopia, Uganda and Kenya)?
- What kind of nursing interventions could be used in preventing obstetric fistula in adolescents in East Africa (Ethiopia, Uganda and Kenya)?

3 Theoretical framework

3.1 Obstetric fistula

Obstetric fistula is one of the potential injuries and complications which arises during childbirth, if there is prolonged and obstructed labour. This may lead to the dead of both the mother and the baby, or if mother survives causing pain, misery and depression to many young women in developing countries. In biological terms, OF is an abnormal opening between a woman's vagina and bladder and/or rectum resulting to uncontrollable leakage of urine and/or faeces, usually resulting from obstructed labour (WHO 2006). The prolonged pressure of the foetal head pressing against the soft tissues around the vagina and bladder and/or rectum causes a progressive reduction of blood flow. The subsequent lack of blood supply to the mother's soft tissues in these areas leads to ischemic injury that produces massive damage throughout the maternal pelvis as well as foetal death from asphyxiation (Tollosa and Kibret 2013). Obstructed labour, identified as a primary cause of obstetric fistula occurs in about 5% of live births and accounts for 8% of maternal deaths worldwide (WHO 2006).

There are many types of obstetric fistulas with different causes and pathophysiology but this thesis chooses to focus on the two main types resulting from obstructed labour during delivery, which are vesicovaginal fistula (opening between a woman's genital tract and urinary tract) and rectovaginal fistula (opening between a woman's genital tract and the rectum). Both are associated with persistent odour due to urine/faecal incontinence. OF can affect any woman of child bearing age. However, it is important to note that adolescents are a vulnerable group because for them pregnancy and childbirth pose danger due to physical immaturity, which increases the risk of obstructed labour (UNFPA 2012).

OF is an acquired condition after childbirth as a result of prolonged/obstructed labour, where timely intervention or emergency obstetric care is not sought for/after. Obstructed labour can be caused by contracted pelvis, mal-presentations of the foetus or large foetus. Prolong labour is labour that lasts for more than 24 hours. Although obstructed labour is the causative factor of Obstetric Fistula, poverty remains an important underlying factor which affects women's nutrition, gender discrimination, status of the woman in society, and the level of education. The woman is considered to be under the man, voiceless and powerless therefore decisions concerning her life are made by men. These factors which arise because of poverty compound the risk to developing a fistula and lack of access to skilled birth attendants or knowledge to seek for treatment even after they have fistula.

On the other hand, obstructed labour is a problem which could be anticipated if these women go through regular antenatal care so that ways to prevent prolonged labour could be identified and discussed before child birth. But due to limited access to medical services by the women in the rural areas, labour and delivery complications are not identified beforehand and solutions

are not sought after within a timely intervention period leading to death of a majority of these women or the development of fistula, if they survive (WHO 2006). Consequently, OF is a devastating condition and is known to have catastrophic health impact on a woman and her child. Maternity morbidity is a serious health challenge and its devastating effects cannot be over emphasized. Reports have shown that approximately 90 per cent of women who develop fistula delivers a stillborn baby. These women end up grieving for most part of their lives, going through the pains of incontinence and psychological burden such as isolation and stigmatization due to unpleasant odour, feeling of rejection and low self-esteem, depression and anxiety, inability to work, etc. (Mohameda and Ng'ang'a, 2016).

3.2 Obstetric Fistula in East Africa

3.2.1 East Africa

The East African part of Africa is a very vast region and according to United Nations it consists of 20 countries stretching from Eritrea down to Madagascar (Department of Economic and Social Affairs of the United Nations Secretariat, UN/DESA, 2014). This thesis will not consider the East African community which is geographically formed in the modern classification as being Kenya, Uganda and Tanzania which later was joined by Rwanda and Burundi, three countries were selected from the East African 20 nations and these are Ethiopia, Kenya and Uganda because these three countries to have many studies done about fistula by national and international researchers. In relation to that a number of these studies were joint studies combining data from all the three selected East African nations and this could provide compulsion of the data.

Ethiopia is an East African country which was never colonized by any other country, found in the west of Somalia. Bordering with Djibouti, Eritrea, Kenya, Somalia, South Sudan and Sudan. It is seated on 1 million sq km of land and 104,300 sq km water. Ethiopia hosts a population of 105,350,020 people who are distributed into ethnical groups. The total population life expectancy is 62.6 years where males are 60.1 years and females are 65 years. The total fertility rate is estimated at 4.99 children born per a woman with a mother's mean age at first birth at 20 years. The Ethiopia's GDP is $177.4 billion with an approximate of $1,900 per person per year. Poverty in the country is ranked at 29.6% of the people below the poverty line with unemployment rate of 17.5% (World Health statistics 2015).

Kenya is a former British colony bordering Uganda, Ethiopia, Somalia, Tanzania and the Indian Ocean. With a population of 47,615,739 inhabitants, Kenya occupies a total area of 580,367 sq km of which 569,140 sq km is land and 11,227 sq km water. Kenya's population annual growth rate is at 1.69%. Life expectancy for the total population is 64.3 years with 62.8 years males and females at 65.8 years. Total fertility rate is 2.98 children born per woman with Mother's mean age at first birth at 20.3 years. Kenya is the economic, financial, and transport hub in East Africa with a GDP at $152.9 billion and approximately $3,400 per person per year. The

unemployment rate is 11% an estimate of 43% of the population below the poverty line. Agriculture is the backbone of the Kenyan economy, contributing one-third of GDP (World Health statistics 2015).

Uganda is a land locked neighboring Kenya, Democratic Republic of the Congo, Tanzanian, Rwanda and South Sudan, a former British colony which occupies a total area of 241,038 square kilometers of which 197,100 square kilometers is land and 43,938 square kilometers is water. Uganda's population is 39,570,125 inhabitants with one of the youngest and most rapidly growing populations seen at the growth rate of 3.2% annually. Uganda's fertility rate stands at 5.8 children per woman, mother's mean age at first birth at 18.9 years and life expectancy at birth of total population at 55.9 years where males are at 54.4 years and females at 57.3 years. Uganda is a low-income country, with 19.7% of the population below the poverty line and the income per capita is estimated at $83.39 billion which is approximately US $2,300 per person per year. Unemployment currently stands at 9% (World Health statistics 2015).

3.2.2 Obstetric Fistula in Ethiopia, Kenya and Uganda

Obstetric Fistula has been cited to be a huge problem in developing societies the African continent. Tunçalp, Tripathi, Landry, Stanton & Ahmed (2014) put it that most fistulae occur in countries in sub-Saharan Africa or south Asia due to poorly-resourced health systems. The world health organization through the department of sexual and reproductive health (2017) reports that fistula affects between two and three million girls and women across sub-Saharan Africa and Asia and estimates that each year, between 50000 and 100000 women worldwide develop obstetric fistula.

The prevalence of fistula in Ethiopia, Kenya and Uganda and the entire East African region can be attributed to many factors. The World Health Organization (2017) reported that the exact number of women suffering from obstetric fistula is difficult to estimate due to lack of commitment to address and resolve this problem, as well as lack of awareness within the healthcare system in developing countries. However, local studies made in the selected countries have tried to collect data that estimates the prevalence of obstetric fistula in their areas. These, too have indicated how hard it is to get the real numbers due to some factors.

In Ethiopia, Tollossa and Kibret (2013) report that between 26,000 and 40,000 of women live with obstetric fistula. They estimated that the incidence of obstetric fistula in rural Ethiopia was found to be 2.2 per 1000 women of reproductive age and 9,000 of new cases occur every year in Ethiopia. According to the ministry of health, Uganda Commemorates obstetric fistula Day (2016) Uganda estimates to have 140,000 to 200,000 women living with fistula and about 1,900 new cases occurring annually, despite government efforts to improve maternal and child health services. The ministry also affirms that Uganda ranks third in the countries with the greatest obstetric fistula cases in the world as per the World Health Organization rankings. In

Kenya, according to Waweru-Wanyama (2014) it is estimated that fistula occurrence stands at 3 to 4 women for every 1,000 deliveries. There are an estimated 3,000 new cases of fistula each year in Kenya, with only 7.5% able to access medical care for the condition.

Several factors have been identified to the high prevalence of fistula in sub-Saharan African countries Ethiopia, Uganda and Kenya inclusive. These factors are categorically Economic, Social and political factors. Economically, the three countries are still under developed economies as seen from the above country statistics. The level of poverty and the degree of un employment are quite high creating impossibilities for pregnant women to access good healthcare during birth. The presence of harmful traditional practices still existing in many societies. Such practices are dominated by female genital mutilation, early marriages, wife inheritance and violent sexual activities including rape. Early marriage is one of the major factors contributing to teenage pregnancies hence the presence of obstetric fistula in East Africa (Muleta 2006).

3.3 Adolescents and obstetric fistula

As a term, adolescence is acknowledged to be quite complex for easy definition. The complexity stems from the fact that each individual experience physical, emotional and cognitive development differently and different countries have different national laws on age threshold for this group (UNICEF 2011). Even though there is this difficulty in defining who an adolescent is, the United Nations defines an adolescent as persons between the ages 10 and 19, in other words individuals who are in the second decade of their life (UNICEF 2011). In as much as adolescence is defined by the biological development of an individual, Alexa Curtis argues that adolescence is also determined by a cultural context (Curtis 2015). This cultural aspect is very important to this thesis because of its emphasis on nursing interventions focused on this group.

The cultural practices of early marriages and early deliveries present a major risk factor for the development of OF. In Sub-Saharan Africa and South Asia where OF is most common, the age of marriage is sometimes as young as ten. Because they are married, they are expected to become pregnant soon after, whereas their pelvises are not yet fully developed and prepared for childbearing. (UNFPA 2013). Statistics from UNFPA presents that nine out of ten births are from adolescent girls and these births occur with a marriage or a union (UNFPA). Ampofo (1990) also present examples in Ethiopia and Nigeria where over 25% of fistula patients had become pregnant before the age 15, and over 50% of fistula patients had become pregnant before the age of 18. As Muleta (2006) puts it, most of these young girls have been married off to illiterate farmers who have subjected them to sex and hence early pregnancies. While pregnant, these girls have been exposed to heavy house hold tasks and poorly fed leading to poor nutritional status. Muleta further reports that most of these girls live in highly deprived settings where they have less/no access to skilled health attention during pregnancy and labour. Labour, therefore, is handled by village women and traditional birth attendants exposing them to obstetric

fistula and other complications after spending hours in labour. Traditional practices, for example, Female Genital Mutilation (FGM), the Gishiri cut, play a role in the aetiology of obstetric fistula. These practices could lead to tears or obstructed labour during childbirth, therefore increasing the possibility of developing OF.

3.4 Nursing interventions

Nursing, according to the American Nurses Association (2017) is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, facilitation of healing, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, groups, communities, and populations. The World Health Organisation (WHO 2017) describes nursing to encompass autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, the prevention of illness, and the care of ill, disabled and dying people. The International Council of Nurses defines a nurse as someone who has gained adequate training in nursing education and has been authorised by the appropriate authority to practice nursing in some country/countries, by promoting health, preventing illness, caring for people of all ages in different health care settings and communities, be part of a broader health care team and strive to improve knowledge through research.

Nurses play an important role in the prevention of obstetric fistula through different nursing interventions carried out in the day to day nursing duties. This thesis therefore, seeks to describe these nursing interventions. Nursing interventions are the essential component that characterizes nursing care (Howard, Bulechek, Dochterman & Wagner 2013). A nursing Intervention is defined as a single nursing action, treatment, procedure, activity, or service designed to achieve an outcome of a nursing or medical diagnosis for which the nurse is accountable (Saba, 2007). Nursing intervention can also be any treatment, based upon clinical judgment and knowledge that a nurse performs to enhance patient outcome. Howard et al state that nurses use clinical judgement with individuals, families and communities to improve their health, enhance their ability to cope with health problems and to promote their quality of life. In choosing a nursing intervention factors including desired patient outcome, characteristic of the nursing diagnosis, research base for the intervention, feasibility for performing the intervention, acceptability to the patient and capacity of the nurse should be considered. Nursing interventions need to be carefully designed, systematically evaluated and successfully translated into practices to assure that the interventions are effective in producing intended outcomes (Howard et al. 2013).

In preventing obstetric fistula in adolescents, nurses are on the front line of healthcare in the care for women before, during and after pregnancy by taking critical steps in the eliminations of risk factors which could lead to obstetric Fistula. Nurses are also essential team members in

the treatment and repair of obstetric fistula, and extending their interventions in helping women reintegrate into their communities (The East, Central, and Southern African Health Community and USAID Fistula Care 2012, 15).

4 Methodology

4.1 Literature Review

A literature review was chosen for this thesis as the methodology. A literature review aims to identify, select and synthesize all research published on a question or topic. It adheres to a strict scientific design based on pre-specified and reproducible methods. This helps to provide reliable estimates about the effects of interventions as well as illustrating knowledge about the intervention. By showing where knowledge is lacking a systematic literature review can be used to guide future research (Leeds University Library 2017).

Eelectronic searches were conducted to look for articles on obstetric fistula in adolescents where results were restricted to articles published between January 1, 2006 and November 30, 2017. Titles and/or abstracts of search results, and selected articles addressing obstetric fistula incidence, prevention, or the correlation between obstetric fistula and adolescent pregnancies in in Ethiopia, Kenya and/or Uganda were reviewed for full-text. To avoid information overload and blowing the search out of context, only two databases where chosen; CINAHL (EBSCO) and ProQuest Central. CINAHL (EBSCO) is a trusted research tool for nursing and healthcare professionals with fast and easy full-text access to top journals, evidence-based care sheets and articles from reliable sources. ProQuest Central was selected because it is a big search tool that collects many other databases to create the most comprehensive, diverse, and relevant search results. It provides access to many trusted healthcare and medical databases with a collection of thousands of full-text scholarly journals, newspapers, magazines, dissertations, working papers, and market reports. It also provides easy search options which makes the filtering of results easy and reliable. Both database provided information management and workflow tools which made it easy to save and manage the selected results for easy review. They are also trusted and are freely accessible through Laurea Finna.

Inclusion and Exclusion criteria were used to search for articles containing any of the phrases formed from the research question. To be systematic and minimize selection bias, the search had to be comprehensive and encompassing of all possible research words from the research question. The major search phrases were; obstetric fistula in Ethiopia, Kenya and Uganda, obstetric fistula in adolescents, obstetric fistula prevention in East Africa and nursing interventions in obstetric fistula prevention. These were important to the data search because they directly pointed out what the writers were looking for and they could easily help to keep the search processed in the scope. These search phrases could easily be manipulated to even widen the search than totally forming new search phrases. The literature, therefor, with one or more of these phrases were considered if the words or phrases occurred either in the title, abstract or body of the article. Phrases were mainly used based on the nature of the study which has several concepts to consider.

4.2 Data collection

To control the results, filters were used as an inclusion strategy. Only literature in the English language was included. The search was done only on women/females between the ages 13 and 18. The word adolescents was also used to exclude articles which focused on female adults from 19 years and above. It was also important to narrow the search to only East Africa including only studies from Ethiopia, Kenya and Uganda, this would satisfy the geographical relevance of this thesis. For the article to qualify to the inclusion criteria, it had to be with a relevant tittle, an abstract, in full text, a reference list and peer reviewed.

Search phrases	ProQuest Central		EBSCO host.		Total search	Articles discarded	Selected for further review
Obstetric Fistula in Ethiopia,Kenya and Uganda	Total	Selected	total	Selected			
	81	9	529	15			
Fistula control in East Africa	160	5	104	10			
Obstetric Fistula in young mothers	148	11	141	9			
Nursing interventions in obstetric Fistula control	9	4	74	10			
Total	398	29	707	44	1105	1032	73

Table 1: Stage one of data collection.

The table above shows the numbers of articles got from the total literature search from each database. As indicated in the table, out of the 1105 only 73 articles qualified for further review. The 1105 articles were yielded on the criteria of possessing an abstract, references, full-text, being in the English language and being in the time frame of 2006 and 2017 and having been conducted in Africa. These however, were further reviewed through reading the abstracts and a fast look at the body and considering factors for inclusion and exclusion as seen in the table below.

Refining the 1032 articles based on the following	
Inclusion	**Exclusion**
• Conducted in East Africa • Involves young mothers between the age of 13-18 • Strictly on fistula (treatment, burden, prevalence, control or prevention e.tc) • Uganda, Kenya or Ethiopia (hospitals, universities, society, organizations)	• Studies on adult women (19 years and above) • Mixed studies on different health conditions • Articles from other countries in Africa apart from EastAfrica. • Repeated studies • Duplicated studies.
73 qualify for thorough review to select the final articles for data analysis	

Table 2: Stage two of data collection.

The selected 73 articles qualified for further refining with an objective of finding the most relevant to the research question to do a data analysis and report the findings. As seen in the table below the inclusion and exclusion criteria was followed.

Inclusion criteria	Exclusion criteria
— **Relevant to the research question** — **Fistula control and prevention (policies, organizations, medical interventions)** — **Factors for fistula in adolescent mothers Ethiopia, Kenya or Uganda.** — **Community Healthcare promotion** — **Obstetric fistula statistics.** — **Evidence based health interventions** — **Data collected from either Kenya Uganda or Ethiopia. But could combine the three countries** — **Practical factors in eliminating Fistula (Fistula repair surgeries and follow up studies**)	— Other types of Fistula rather than Obstetric Fistula — Economic and political studies for social improvement. — Obstetric fistula was a minor discussion topic — Other obstetric conditions and outcomes (maternal and child deaths) — General maternity healthcare discussing pregnancy and delivery health
16 articles qualified for Data analysis	

Table 3: Final stage of data collection process.

The data collection yielded 16 articles for data analysis to find the main themes and sub themes from which the finding would be reported and discussed as showed in the proceeding chapters

4.3 Data analysis

In this thesis qualitative content analysis, specifically inductive content analysis was used to analyse the data. Qualitative content analysis as defined by Elo & Kyngäs 2008 is a research method which uses systematic and objective means to describe and quantify phenomena, which allows for the possibility to distil words in a study into fewer content-related categories. It is widely used and allows meaning to be construed from the content of data in the articles reviewed, generating new knowledge.

16 articles were retrieved from data search of this study. These articles were then analysed to answer the research questions: what nursing interventions have been used to prevent OF in adolescents in East Africa and what nursing interventions could be used to prevent OF in adolescents in East Africa. From the 16 articles retrieved for literature review in this thesis, the authors studied the material through repeated reading, to familiarise themselves with the content. Given that there are two research questions in this study, the authors created two separate boxes, one for each research question. Because of the questions what nursing interventions have been used…, and what nursing interventions could be used… the authors searched through the articles only for codes which answered one or both of these questions, according by Elo & Kyngäs (2008).

These codes were then scored in the appropriate boxes, which gave rise to the raw data. The next step according by Dey (1993) reported in Elo & Kyngäs (2008) was developing sub-categories from these raw data by grouping codes whose interventions have same target group, for example, such as for whom are these interventions? Or codes with interventions that manage the same issue.

The figure 1 below illustrates this process. Six sub-categories were created from what nursing interventions have been used, and six sub-categories were formed from the raw data presented for what nursing interventions could be used.

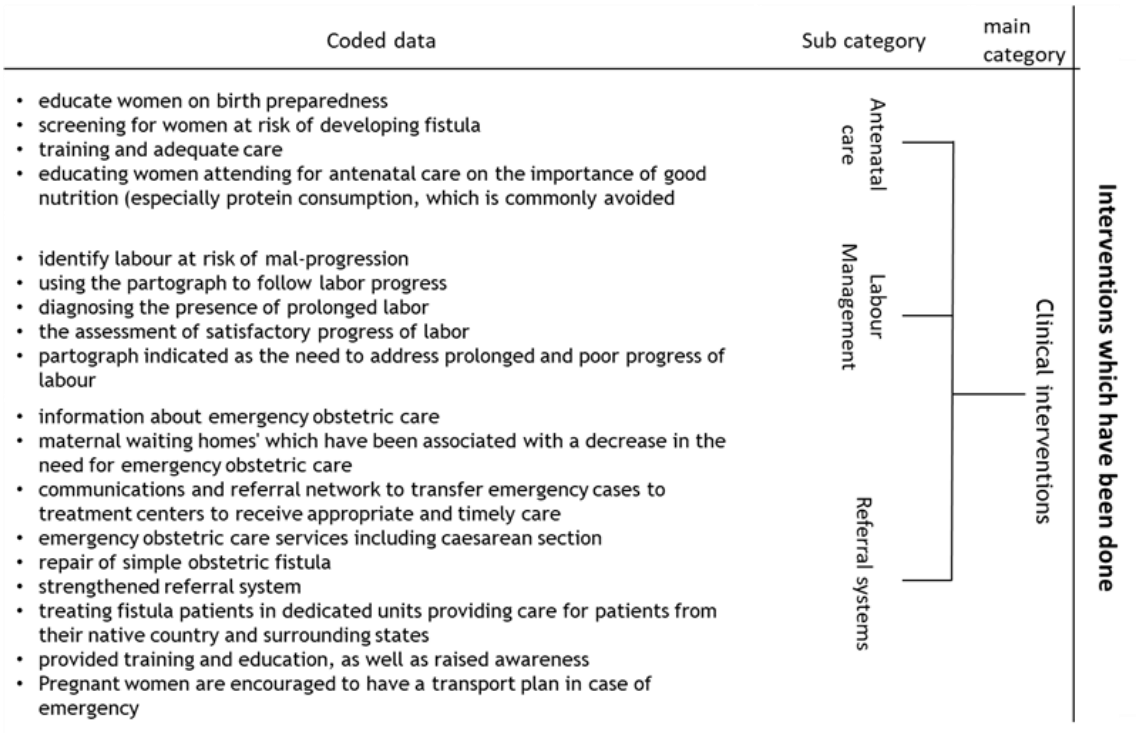

Figure 1: Part of the data analysis process

Lastly, these sub-categories were grouped into two main categories for nursing interventions which have been used, and two main categories for nursing interventions which could be used. The main categories were formed based on what kind of setting the interventions are/could be carried out. During this analysis process, the purpose and the research questions were revisited severally to guide and keep the process focused and on track. Through this process the authors gained an increasing understanding of the available material and focused to generating knowledge from the findings of this process. The full data analysis process can be seen in Appendix 1.

5 Findings

5.1 Presentation of the Findings

The finding from this literature review seek to serve the purpose of this study which is to describe nursing interventions used in the prevention of obstetric fistula in adolescents in East Africa by answering the two research questions; What kind of nursing interventions have been used to prevent obstetric fistula in adolescents in East Africa (Ethiopia, Uganda and Kenya) and What kind of nursing interventions could be used in preventing obstetric Fistula in adolescents in East Africa (Ethiopia, Uganda and Kenya)?. By critically examining the selected 16 articles two major themes were created with each hosting subthemes as seen in the Figure

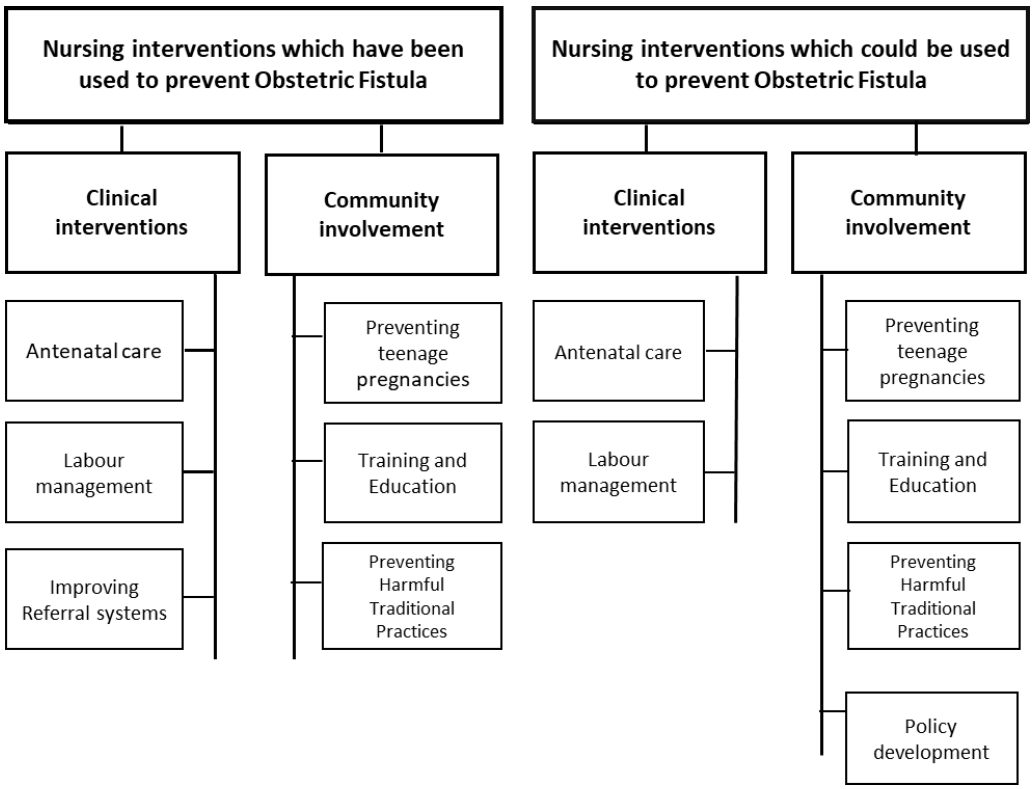

Figure 2: summary of the Findings

5.2 Nursing interventions which have been used to prevent OF

5.2.1 Clinical interventions

5.2.1.1 Antenatal care

In some areas of East Africa, much attention has been paid to providing care to young girls during pregnancy. At community healthcare centers, nurses are working with community healthcare workers to encourage women to attend antenatal care where nurses carry out proper screening on the progress of the pregnancy and identify any risks to obstetric fistula in pregnant girls. To adequately provide care during pregnancy, healthcare providers who are not

specialized in obstetrics have been offered training on screening for women at risk of developing obstetric fistulas so as to refer them to adequate facilities in a timely manner. Regular antenatal visits are aimed at educating women on birth preparedness and the importance of a trained birth attendant and providing information about emergency obstetric care (Lufumpa & Steele 2016).

Antenatal care visits are used to educate women on the importance of good nutrition especially protein consumption. Banke-Thomas, Wilton-Waddell, Kouraogo, and Mueller (2014) reveal that most obstetric fistula patients have usually been malnourished with an averagely 44kg, small and short, with an average height of 146.2cm12'16. Efforts in Ethiopia are geared at educating pregnant women and their spouses on the benefits of proper nutrition and promotion of good care for the pregnancy (Natoli, Renzaho, and Rinaudo 2008).

5.2.1.2 Labour management

Abstracted labour has been identified as the major cause of obstetric fistula in young girls in East Africa and this has been mainly due to prolonged labour. Banke-Thomas et al (2014) indicates that the average labour of women who had fistula lasted 2.61 days, while an average of 1.61 days passed before they sought assistance in health institutions. Preventive strategies have been used to get women to hospitals on time for labour to be managed by skilled birth attends. Nurses are using proper labour management to monitor the progress of labour and identify existing complications like poor progress of labor, prolonged labour, fetal distress, obstructed labor and ruptured uterus (Mezmur and Agumasie 2017).

To achieve proper diagnosis on how labour is progressing, there has been a need to have proper tools used in labour management. In most East African countries, the use of the partograph, a tool used in monitoring labour so as to identify labour at risk of mal-progression is, has been reported. Wakabi (2008) reports that efforts have been directed at training health providers to use a partograph to monitor the progress of labour to recognise danger signs and obstetric emergencies and identify when medical attention is needed with the goal of prevention and treatment of obstetric fistula. Mezmur and Agumasie (2017) conforms in their study that healthcare workers are actively using the partograph in monitoring labour progress. Their study shows that 59.5% of the respondents who were midwives and nurses, knew how to diagnose the presence of prolonged labour using the partograph and 78.7% of them knew about the assessment of satisfactory progress of labour. As a nursing intervention tool, Mezmur and Agumasie (2017) affirm that partograph is an efficacious tool for monitoring labour and identify women requiring further interventions and is being used by nurses in East Africa.

5.2.1.3 Improving referral systems

Prolonged and abstracted labour has been uniformly promoted by the safe factors among pregnant women and girls in Ethiopia, Uganda and Kenya. Wakabi (2008) notes that obstetric fistula

usually results from several days of obstructed labour, without timely medical intervention. The delay in seeking for timely skilled medical intervention is being attributed to several factors. Lufumpa and Steele (2016) identify; distance from care facilities, cost of care and transportation, sociocultural beliefs, and the perceived quality of care as major factors affecting the decision to seek care when labour starts. Wakabi (2008) adds that there is lack of access to emergency obstetric services due to poor transportation facilities and inadequate roads connecting villages to big cities where health institutions providing caesarean sections are located. There are developments to building communications and referral network to transfer emergency cases to treatment centers to receive appropriate and timely care. Information about emergency obstetric care is given to mothers during antenatal care visits.

Maternal waiting homes have been created to enable pregnant women from long distances to access skilled monitoring and improve emergency obstetric care. Under these homes nurses can have girls from far distances hence a full-time monitoring of the progress of the labour. Strengthened referral system are targeting emergency obstetric care services; including caesarean section, repair of simple obstetric fistula in emergency units providing care for patients from distances. Emergency units treat patients and also provided training and education, as well as raising awareness on emergency needs e.g. encouraging women to have a transport plan in case of emergency (Elneil 2010; Natoli et al. 2008; Lufumpa & Steele 2016).

5.2.2 Community involvement

5.2.2.1 Preventing teenage pregnancy

Sub-Saharan Africa has the highest prevalence of teenage pregnancies in the world with births to teenage mothers estimated at 101 births per 1000 women aged 15 to 19. East Africa has showed decreased levels of teenage pregnancy to half of what it was in 1991 constituting the greatest decrease in teenage pregnancy in the sub-Saharan region. Family disruption and community female unemployment are highly related to teenage pregnancy in East Africa. Consequences of teenage pregnancy include obstetric Fistula, health, economic and social problems. Teenage mothers are at higher risk of obstetric complications such as incontinence from obstetric fistulae, eclampsia, post-partum hemorrhage, sepsis and maternal mortality (Odimegwu and Mkwananzi 2016, Mulati et al. 2017).

Much awareness about the dangers in early teenage pregnancies in East Africa have been supported by the existence of the fight against HIV/AIDS (Odimegwu and Mkwananzi 2016). Most healthcare workers are using the advantage of the fight against HIV/AIDS to educate young girls about risks associated with early marriage and early pregnancy. Comprehensive sex education programs in Kenya (Agbemenu & Schlenk 2011) are being used to target either adolescent girls or the general adolescent population between 14 to 18 years of age where abstinence is taught

as the best method for avoiding unintended pregnancy, HIV/AIDS, and STIs. In the same programs instructions are given on contraceptives and safer sex practices for example, how to use condoms. Education is also being provided on interpersonal and communication skills to help young people explore their own values, goals, and options. Through this, teenagers, both girls and boys have been educated on the benefits of abstinence and avoiding engaging in sexual acts. Clinics have been established to ensure inexpensive and confidential access to contraceptives as well as diagnosis and treatment of sexually transmitted infections in adolescents. Through these clinics teenagers are also receiving counselling on sexual and reproductive health.

5.2.2.2 Training and Education

Community involvement by nurses and other healthcare professionals is based on creating awareness about obstetric fistula and how it affects women and girls, and how it can be prevented by different community stake holders in society. Awareness about the condition is still very low in East Africa as reported by Kasamba, Kaye and Mbalinda (2013). Local communities have been educated about cultural social and physiological factors that influence and increase the risk of fistula in girls and women. Banke-Thomas et al. (2014) emphasizes the evidence that there is a lot of misconceptions around the cause and risk factors of obstetric fistula in East African societies hence the need for community based social education programs.

Patient education has been very useful in community education where previous patients who have been treated from fistula, are acting as community advocates for fistula prevention by sharing experiences and helping to dispel cultural myths. Through obstetric fistula repairs and monitoring in hospital, women are trained and counselled to help them integrate back communities. Such women have been equipped with the knowledge and skills to educate the communities on the dangers of some harmful traditional practices and to stimulate discussions obstetric fistula prevention strategies in societies. To create a possibility for attitude and behavioral change in the community, this form of intervention as mainly targeted males and females of all ages to help build the communication gap which exists between the young and adults so as to promote dialogue about Fistula. (Kasamba et al. 2013; Natoli et al. 2008; Wakabi 2008; Banke-Thomas et al. 2014).

Exchange for knowledge has been evidenced in efforts to prevent obstetric fistula in East Africa where healthcare workers including nurses and midwives have embarked on special training in fistula care and prevention. These in turn are training and educating traditional birth attendant on simple skills in helping women and young girls to safely deliver babies and realizing those at risk of complicated labour and refer them to timely skilled medical attention. Through the same strategy community workers have been trained to detect fistula and refer it to the centers where treatment and care are offered. Retraining healthcare workers is aimed at broadening their clinical practice and take a more holistic approach to care. This has also empowered

nurses and midwives in the fight against early marriages, other harmful traditional prices and promoting fistula preventive interventions in communities (Wakabi 2008; Agbemenu & Schlenk 2011)

5.2.2.3 Preventing harmful traditional practices

Strategies to preventing obstetric fistula in adolescents are proving fruitless with the existence of harmful traditional practices in most East African societies. Such practices range from female genital mutilation to early marriages contributing to the obstetric fistula problem in adolescent girls. Natoli et al. (2008) report that most young mother who have been affected by fistula have been forced into marriage at a very young age. The legal age of marriage in Ethiopia Kenya and Uganda is 18 years however, reports indicate that this is widely ignored. Early marriage exposes young girls to abrupt transition to sexual activities with their husbands twice older their age. Early marriage is usually followed by early pregnancy typically resulting in worse outcomes including Obstetric Fistula. Female Genital mutilation is yet another harmful traditional practice among societies in Kenya, Ethiopia and Uganda which have greatly contributed to the development of birth complication among adolescent mothers leading to obstetric fistula. These mutilations range from minor to very severe cuttings including infibulation which involves narrowing of the vaginal orifice with creation of a covering seal by cutting and positioning the labia minora and the labia majora, with or without excision of the clitoris. Such practices have caused permanent damage to girls making giving birth very risky by exposing them to obstetric fistula (Mwanri and Gatwiri 2017).

The involvement of nursing intervention is to engage different community stakeholders in the promotion of community discussions on the prevention of harmful traditional practices such as gender-based violence, female genital mutilation, and early marriage to control fistula incidences. In Ethiopia, communities have been educated on the dangers of these practices towards young girls and are encouraged to monitor and reporting them to healthcare workers who involve the law enforcement. Healthcare workers are directly involved in verification of ages and photo identification for girls before marriage to prevent early marriages in communities of Ethiopia (Wakabi 2008; Natoli at el.2008).

Healthcare professionals have been skilling influential people in communities to educate people on the consequences of harmful traditional practices. These have been selected based on influential groups in the societies including; traditional birth attendants, community based reproductive health workers, teachers and women who have had fistula treatment and their major role is raising awareness about issues related to female genital mutations including mentioning the immediate risk of blood loss and understanding the later life complications like; loss of elasticity of perineal tissues, delayed labor which could result to obstetric fistula, tearing and hemorrhage. Information about the possibility of serious infection, including HIV and tetanus from using dirty or shared blades is included in the awareness (Natoli at el. 2008). Efforts

have also been done in advising communities to seek medical help female genital mutilation is handled by medical professional. Mwanri and Gatwiri (2017) report that many have responded due to the respect given to medical professionals and the fact that many people think it is safer when female genital mutilation is performed by clinicians.

5.3 Interventions which could be used to prevent OF

5.3.1 Clinical Interventions

5.3.1.1 Antenatal care

One of the causes of OF stems from the fact that women delay to labour seek care, either because they live in rural villages where there may be no health care facility or living far away (>3km) from one (Roka, Akech, Wanzala, Omolo, Gitta, Waiswa 2013). Accordingly, delays in arrival at a health care facility and delay in receiving the appropriate care results in greater risks for complications during delivery that could cause OF in expectant women (Roka et al. 2013). This finding is supported by an article Barageine, Tumwesigve, Josaphat, Facelid (2014) which explains that even though women attend antenatal care, the problem could be with the information they get during these visits. Also, from their findings, some women still shy away from using maternal services resulting in high dissatisfaction of maternal health care and with only 56 per cent of women giving birth in the presence of skilled birth attendants. Wakabi (2008) adds that only 10% of births are delivered by skilled birth attendants in Ethiopia. Therefore, there is need for nurses to continue to encourage pregnant women to deliver in hospitals (Barageine et al. 2014). In this line of prospective actions that could help mitigate the risks of OF, nurses in this setting must work to improve on the quality of information that they give to pregnant women during antenatal visits (Barageine et al. 2014), educating then on good nutrition (Natoli et al. 2008) and encourage them to start saving money early enough for emergency transport plan (Kasamba et al. 2013). More emphasis should be placed on passing out information about possible complications associated with childbirth (Wakabi 2008) and the need to seek care immediately so that these women and their spouses get to understand how important making a fast decision on seeking care would save the lives of the mother and baby. In addition to regular antenatal care provision, well trained nurses/skilled midwives should be able to assess and identify large babies and make advanced plans for delivery and extra monitoring (Barageine et al. 2014), supported by the need to identify cases with possible complications during childbirth and making referrals to the appropriate hospitals or health care services in time (Wakabi 2008) where these complications can be handled to prevent OF as a possible childbirth complication.

5.3.1.2 Labour management

Antenatal visits educate pregnant women about what to expect when labour starts. Nurses should encourage pregnant women to seek medical attentions when in labour (Kasamba & Mbalinda 2013). Because there are some communities which practice delivery at home by some traditional birth attendants, there is need for nurses to create a link with these traditional birth attendants, educating them on how to monitor labour and seek medical attention if complications arise or there is prolong labour (Natoli et al. 2008). On the other hand, nurses should receive continuing education on the use of partograph (Wakabi 2008; Wall 2006;) to monitor the labour process, identifying when the process is out of range and being able to seek for help or make referrals (Barageine et al. 2014). Furthermore, being at a higher risk of having fistula, women of short stature should have regular pelvic assessment during antenatal visits and during labour (Barageine et al. 2014).

5.3.2 Community Involvement

5.3.2.1 Preventing teenage pregnancy

According to research and statistics from the literature reviewed, adolescents are at higher risk of developing OF. Also, the risk of developing OF is compounded by becoming pregnant below the age of 20 (Barageine et al. 2014). Due to the incomplete development of their pelvis, poor nutrition, and overall small stature of the young girls, the Campaign to End Fistula suggests that women and girls should be empowered through education (Kasamba & Mbalinda 2013), strengthening maternal service use and improving access to obstetric care services (Wakabi 2008). Such education would benefit adolescent girls. One way of reaching out to these young girls of school-going age is that nurses could go to schools around the communities to teach them about sexual and reproductive health, educating on preventing teenage pregnancy (Kasamba & Mbalinda 2013), and creating awareness about what fistula is and its devastating effects. Sometimes the young girls who become pregnant, for fear of disclosure and lack of support from family and community (Adefris, Solomon, Terefe, Abebaw, Adigo, Amare, . . . Baye 2017) tend to shy away from seeking health advice and care for pregnancy. Thus sexual health promotion should be encouraged among adolescents, who are the most exposed risk group to OF and provide sexual and reproductive health counselling, too (Odimegwu & Mkwananzi 2016).

5.3.2.2 Training and education

These are interventions that privilege community-health approaches most suited to the nature of this OF condition, especially those interventions that give a significant role to education and sensitization work by nurses and mid-wives in distant, rural communities. Nurses who are in community health work have in addition to clinical skills critical thinking, analytical abilities as well as advocacy (Meadows 2009). They provide care in community health clinics, they reach

out to people in their homes, schools, churches or wherever possible people are. Therefore, with regards to the prevention of OF nurses are charged with making the communities aware of what OF is all about, the risk factors and its implications and how it can be prevented (Barageine et al. 2014). Creating awareness about the factors contributing to OF, such as early marriages, for example, which subsequently leads to early pregnancy or, traditional practices such as female genital mutilation, opens up discussions about these social realities and will enable nurses to educate communities on why stopping such practices will go a long way to prevent OF (Wakabi 2008). According to Wakabi (2008), pregnant women in Ethiopia need the consent of their husbands or grandmothers before seeking care, meaning there would be delay in seeking healthcare services. These community education programs should involve the pregnant women, spouses, and other family members to increase the widespread of knowledge (Kasamba & Mbalinda 2013). However, in regard to educating the community on safe motherhood programmes, Wakabi (2008) points out that focus should be placed on birth planning, complications readiness, early referral of pregnant women and provision of family planning information and services, which are all key in preventing fistula. Influential groups or individuals such as traditional birth attendants, community health workers, teachers and women who have been treated from fistula should be trained by nurses and be involved in fistula awareness campaigns, campaign to end harmful traditional practices, and how to facilitate referral to healthcare centers (Natoli et al. 2008).

5.3.2.3 Preventing harmful traditional practices

Harmful traditional practices such as, for example, female genital mutilation, early marriage, are one of the root causes of OF. Therefore, mitigating these factors will mitigate the risk of developing OF. Following a holistic approach of nursing care, nurses are encouraged to look out for such alerts during counselling or clinical visits to offer help and support to the victims (Natoli et al. 2008). With these practices still being practiced in some communities, promotion of discussions to prevent such harmful practices (Wakabi 2008), creating awareness about the devastating effects of these practices on women's sexual and reproductive health would enhance preventive measures for OF. Also, creating awareness about the practice of delivery at home and how harmful it can be for both mother and baby, and encouraging access to maternal services during pregnancy and delivery (Wakabi 2008) would reduce the possibility of developing OF. Communities should be encouraged to monitor and report harmful cultural practices, provide counselling, support and address the need for cultural changes (Mwanri & Gatwiri 2017).

5.3.2.4 Policy development

Because nurses are at the forefront of patient care, they can affect patient care outcome. As Edmonson et al. (2007) suggests 'Nurses in roles across health systems and community settings are well positioned to assess individuals, communities, and populations; advocate for justice and equality; and partner with legislators and inter-professional leaders to identify, implement,

and evaluate a “strengths-based approach” that engages communities addressing local, national and global health issues.’ Nurses in the field need to recommend for the training of more nurses and midwives to undertake community level sensitization on OF and its prevention (Wakabi 2008) especially among adolescent girls. Nurses can such make recommendations to local or national policy-makers on improving the quality and access to emergency obstetric care (Wakabi 2008; Wall 2006), in local communities based on their reports from the local or community clinical healthcare settings. Nurses could encourage greater awareness and prevention campaigns (Ng'ang'a 2006; Wall 2006) and dedicate themselves to full participation in these programs. Fistula affects women and young girls’ human rights when they suffer the devastating effects of living with OF condition and are being undermined by the society. Policy makers should be made to understand that OF is preventable and it is devastating for any maternal death/obstetric injuries resulting from such a condition which could have been prevented (Wall 2006), if appropriate resources are made available.

6 Discussion

6.1 Discussion of the findings

This thesis set out to ascertain the range of nursing interventions used in the prevention of obstetric fistula in adolescents in East Africa from the literature surveyed on the selected countries (Ethiopia, Uganda and Kenya). Although these countries have different rates of women estimated to be affected by OF, they share similarities in terms of the causes and burden of the condition for girls and women. In all three countries, a combination of social and cultural factors (early pregnancies, poverty, female genital mutilation, etc.) as well as poor medical attention result in complications during deliveries that increase the incidence of OF in adolescent girls. Similarly, the role of social factors in increasing the burden of the condition is great in all the three countries. This is particularly so in regard to the social stigma and isolation of the young girls affected by the incontinence caused by obstetric fistula.

Obstetric fistula prevention highly depends on how the whole pregnancy-birth process has been handled by both the pregnant woman and the healthcare professional. Every adolescent pregnant girl should be handled as a high risk case to obstetric fistula and caution during antenatal care, labour management and delivery should be taken to achieve fistula free outcomes. This is supported by Rai (2011) who asserts that adolescents have undeveloped bodies, where their pelvises are not yet fully developed to handle a safer delivery of a baby. The underdeveloped pelvises increase the chances that a pregnant adolescent will face obstructed labour during delivery. Nurses and midwives who attend to these girls during antenatal care, should right away communicate the risk to the pregnant girls and their spouses or caretakers and fully educate them on the methods of reducing the risk. As suggested by Natoli et al, (2008) these girls should be educated on the importance of proper nutrition during pregnancy especially the consumption of proteins. Much emphasis should also be placed on seeking for skilled care when labour starts.

The antenatal care becomes very crucial in the prevention of obstetric fistula in adolescents when it becomes very informative to these young girls who are usually facing pregnancy for the first time and know less about it. Montgomery (2003) supports this by indicating that adolescents have additional unique needs so they should receive special care during pregnancy different from that given to adult women. Montgomery continues to affirm that adolescents have less life experience than adult woman and this makes them less capable to cope which all the changes and challenges related to pregnancy and birth. The antenatal care should be non-judgemental, developmental and should be highly interactive to care for the physical, emotional and educational needs for the pregnant girls.

Dowswell, Carroli, Duley, Gates, Metin, Dina and Piaggio (2015) describe antenatal care as a goal-oriented, problem-solving, solution-focused, and action oriented approach of care given

to women from the time of conception until the onset of labour. A good antenatal care helps to prevent obstetric fistula in pregnant girls by identifying girls at increased risks for obstetric fistula so that a more cautioned birth can be prepared. Nurses get a chance to inform the girls of signs of prolonged labour, obstructed labour, and other pregnancy complications and hence devise means to handle the complications before they become dangerous.

The antenatal care is highly supported by using the right tools which enable the nurses to do proper diagnosis and follow up on the health of the pregnant teenagers. (East, Central, and Southern African Health Community, 2012). A number of studies in this literature review stress the importance of monitoring the progress of labour as a very important preventive measure to obstetric fistula. The use of the partograph has manifested in this review as the mostly used and recommended tool used by nurses and midwife in the monitoring of labour. The use of the partograph, for example, in the management of labour can improve pregnancy outcomes and reduce obstetric fistula. This literature review, however, has not identified other methods which could be used to give even more accurate information about the progress of labour that would reduce the occurrences of obstetric fistula. This could be due to the fact that not many studies have been conducted on the prevention of fistula in East Africa. as Banke-Thomas et al. (2014) puts it that fistula prevention progress has been slow mainly because the donors and researchers involved in the fistula campaigns are keener on treatment which bring quicker results as compared to prevention.

Although some traditional birth attendants have been given some skills to handle births, adolescents need more skilled nurses and midwives to handle the delivery process because they are at a high risk for labour complications which can't be handled by the traditional birth attendants in the villages. Healthcare professionals also have better skills to make timely referrals to more advanced care in case of emergencies. Banke-Thomas et al (2014) reports the existence of delayed decisions to seek medical attention by women in villages and the fact that better facilities being far from the villages. This is an indication that nurses are tasked with a responsibility of reminding women to make transport plans. Some girls might not know about the existence of the waiting maternal homes where pregnant women from far distances can wait and receive timely labour care, nurses need to have all this information ready for the girls.

Nursing interventions in preventing obstetric fistula are most applicable when pregnant adolescents have and can access healthcare facilities where skilled care during pregnancy, labour and delivery, and emergency obstetric care can be offered. This enables the nurse to directly engage in actions which seek to promote the patient outcomes by directly assessing the pregnancies at every stage and being able to deeply engage the girls in planning and implementing personal care alternatives based on the nursing diagnosis. Ackley and Gail (2011) support this by identify nursing interventions as autonomous actions that are initiated by the nurse in response to a nursing diagnosis. These could also be actions that a nurse performs in collaboration

with other health care professionals and that may require a physician's order and may be in response to both medical and nursing diagnosis. In this case, nurses work with midwives to ensure that pregnant adolescents receive the best care throughout the pregnancy process.

Nursing interventions conducted to promote contraception to reduce teenage pregnancies are very important in the prevention of Obstetric Fistula in Kenya, Uganda and Ethiopia among adolescents. These countries have a very high prevalence of teenage pregnancies yet it is a risk factor in obstetric fistula (Odimegwu and Sibusiso, 2016). Contraceptive interventions involve actions done by nurses and other healthcare professionals to reduce pregnancies in teenagers. Healthcare professionals work with national governments and nongovernmental organisations to reach out to teenagers in advocating for abstinence before marriage, preventing early marriage and coerced sex as well as increasing the use of contraceptives; emphasizing birth control pills and condom use. Peer education to empower youth on issues such as dating, peer pressure, sexuality has also been implemented to reduce the prevalence of teenage pregnancies in East Africa. (World Health Organisation 2011; Odimegwu and Mkwananzi 2016).

These interventions are based on the evidence that adolescents are at higher risk of getting OF if they become pregnant. As such promoting sexual and reproductive health education of the girl child works to mitigate that risk. Educating both the girl child in terms of enrolment at school and her family on the virtues of girl-child education helps to forestall early marriage and early childbearing. Findings reveal that most women who suffer from fistula are illiterate and have no knowledge of the condition (Barageine et al, 2014). Therefore, emphasis should be placed on educating women and girls about risks associated with early pregnancies and fistula, its devastating effects and why it is important to prevent it.

Obstetric fistula in adolescents can be prevented if the underlying risk factors are dealt with. The findings link these risk factors to actions which expose young girls to pregnancies including gender-based violence, harmful practices such as female genital mutilation, and early marriages and forced sex through rape. These cause permanent damage to their reproductive organs hence exposing them to fistula even when they are grown women. Healthcare professionals are struggling with the existence of these harmful traditional practices in Ethiopian, Ugandan and Kenyan societies because the problem is deep into the culture of the people of East Africa. As Natoli et al. (2008) put it; all societies have some practices that are deeply rooted in tradition across generations and that reflect their values, culture and beliefs. While some of these practices may be beneficial, others can be harmful. Health professionals and international agencies have often varied in their attempts to conceptualise and address harmful traditional practices in East Africa to end obstetric fistula. On this score, findings show that great deals of the interventions are anchored in the register of community health. Here, healthcare centres are the primary means for educating families on the dangers of and the need to prevent teenage pregnancies, including by avoiding early marriages. This is largely done through long-

term strategies that include community education and sensitization of individuals and families on the methods of contraception and different aspects of reproductive health. It has been ascertained that these strategies or interventions would be less costly than the treatment and management of obstetric fistula and that they would deal directly with the root causes of OF among adolescents (Banke-Thomas et al. 2014). Additionally, they mainly aim at behavioural change from the people or communities whose sociocultural values and practices affect women and young girls' health negatively. As a result, these community health interventions are judged to offer sustainable solutions that address the causes of OFs in the long-term (Banke-Thomas et al. 2014).

To conclude, this literature review study was conducted with the purpose to describe nursing interventions used in the prevention of obstetric fistula in adolescents in East Africa. Although findings indicate that several efforts have been taken by healthcare professionals to prevent obstetric fistula, a lot still needs to be done to purposely focus the prevention on adolescents. To prevent obstetric Fistula in young girls, contraceptive strategies have been highly carried out to help reduce on the burden of teenage pregnancies which is a major risk factor to obstetric Fistula among adolescent girls in East Africa. Although safe pregnancy through proper skilled antenatal care and safe deliveries are being emphasised, much community interventions are being implemented to reduce on harmful traditional practices and female genital mutilation which have exposed young girl to aggressive sex and injuries hence risking them to obstetric fistula in the long run. With many suggestions on which interventions that could be used in the prevention of Obstetric Fistula in adolescents, there is a clear indication that the role of the nurse is not yet well defined in the process of fistula prevention. The findings indicate that there are still less skilled healthcare professionals mainly nurses specialized in fistula prevention in the entire East Africa region and Africa at large and hence a call to educate more nurses and midwives.

6.2 Ethical considerations and trustworthiness

This thesis has been conducted by two authors who declare here that they have no conflicting or competing interests. Permission to write this thesis was obtained from Laurea University of Applied Sciences through a thesis contract. The authors have followed the steps in literature review to write this thesis, making sure that no principles of ethical research conducts were overlooked. The findings presented in this thesis are from raw data extracted from the 16 articles reviewed. This thesis is not a duplicate of an already existing research but a product of knowledge gap which we found that exists in research on obstetric fistula, that even though adolescents have been found to be a high-risk group, nursing interventions with respect to this group are not popular. In addition, plagiarism which is of great concern and not giving recogni-

tion to other people's work was avoided by giving appropriate references where needed, according to Laurea Guidelines for Referencing (King 2013). Both in-text and end references were cited accordingly.

Moreover, the articles used in this thesis were mostly qualitative research studies, applying different study designs such as case control, cross-sectional, randomized, controlled, open-label and survey. In these articles it was mentioned that ethical review and approval were sought after, informed consent obtained from participants who were involved in the studies and no personal information of participants were mentioned in the articles, articles which have names clearly mentioned that those names are not the real names of the participants, and participants were recruited voluntarily

Lincoln and Guba (1985) referred to in Polit and Beck (2010, 492) have a framework to develop trustworthiness of a qualitative research by describing credibility, dependability, confirmability and transferability of the findings. In this thesis, firstly, credibility of the results can be ascertained by the fact that more than one article amongst the 16 articles reviewed provided raw data for developing these results. Secondly, dependability which refers to how reliable the findings in this thesis can be replicated is shown through detailed description of the data analysis process in section 6.4, and the analysis was done by two authors, meaning the articles under review were analysed by two authors which increases the reliability of the results. Thirdly, confirmability is concerned with how accurate the data is. The data analysis figure (Appendix 1) shows how we move from raw data to the various categories presented in the findings of this thesis. Lastly, transferability referring to how applicable these results can be used in other setting or groups. The results presented in this thesis can be used in adolescent girls or older women through campaigns on preventing early pregnancies in adolescents, raising awareness about OF in the rural communities, preventing harmful traditional practices among adolescents/young girls among others.

6.3 Limitations and Recommendations

The biggest limitation in this study was that there are very few studies directly made on the population of the adolescents as related to obstetric fistula in East Africa and the chosen countries. Most of the studies were too general and concerned women of all ages. This made data collection very complicated since the search terms had to be changed and manipulated quite a lot to find the most suitable literature for review. Much time was spent on going back and forth on the same literature to find even a little connection to this study. Obstetric fistula is still handled as a general condition among women and less has been done to categorise the most affected groups of women depending on different factors. Fistula as a topic has been mostly studied under maternal health (Banke-Thomas et al. 2014) emphasizing safe motherhood and the role of midwives. The role of the nurse was not presented directly in the articles reviewed in this thesis, but were deduced from the interventions which were done or could be done by

healthcare professionals. This limited the purpose of this study which was seeking to highlight the role of nurses in obstetric fistula prevention.

The writers of this thesis had no previous experience in conducting a literature review study. This limited the selection of the best methodology to best achieve the purpose of this thesis. If they had much experience, it would have been easier to draw the scope of the whole study and planning would be appropriate. Scope and depth of discussion might have been compromised in many levels compared to the works of experienced literature review scholars.

This literature review recommends more studies to be done specifically on fistula prevention in adolescents. Fistula prevention has not been given much attention since most of the studies have been done on the management and treatment of Fistula. Fistula is still being handled at a general level in women. There are very few studies done on prevention of fistula in different age groups mainly highlighting adolescents. Preventions should start from young girls through educating them on what Fistula is, the risk factors and how it affects them even when they are grown. Nursing educations should be much emphasised because it helps to deliver the most skilled information to all stake holders involved in the prevention of fistula in East Africa. Fistula should be independently handled as a health condition than it being studied under maternal health because it has its own risk factors, treatment and care process.

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Figures

Tables

Appendices

Appendix 1: Data analysis Process.

Raw data	sub-category	main category	main theme.
– educate women on birth preparedness – screening for women at risk of developing fistula – training and adequate care – educate women attending for antenatal care on the importance of good nutrition (especially protein consumption, which is commonly avoided	Antenatal care	**clinical interventions**	**Interventions which have been done**
– identify labour at risk of mal-progression – using the partograph to follow labor progress – diagnosing the presence of prolonged labor – the assessment of satisfactory progress of labor – partograph indicated as the need to address prolonged and poor progress of labour –	Labour management		
– information about emergency obstetric care – maternal waiting homes' which have been associated with a decrease in the need for emergency obstetric care – communications and referral network to transfer emergency cases to treatment centers to receive appropriate and timely care – emergency obstetric care services including caesarean section – repair of simple obstetric fistula – strengthened referral system – treating fistula patients in dedicated units providing care for patients from their native country and surrounding states – provided training and education, as well as raised awareness – Pregnant women are encouraged to have a transport plan in case of emergency	improving Referral systems		

– Delaying pregnancies and reducing the incidence of adolescent pregnancies and their risks – Provide education for women, and grant women access to family planning. – educating about risks associated with early marriage and early pregnancy – diagnosis and treatment of sexually transmitted infections – counselling for sexual and reproductive health concerns – peer education to empower youth on issues such as dating, peer pressure, sexuality as well as prevention of pregnancy and diseases – ensure inexpensive and confidential access to contraceptives – effective control of STIs, and preventing unwanted pregnancies and their consequences – awareness of contraceptives among adolescents – Promotion of condom use – communication on reproductive health matters with children to dissuade them from risky sexual behavior – school children knowledge about contraceptive options and the benefits of family planning, both financially and in relation to maternal health	preventing teenage pregnancies	**population-based intervention**	
– educating local communities about the cultural, social and physiological factors that influence and increase risk of fistula formation – awareness raising and efforts to promote dialogue and bridge the communication gap that exists between young people and adults – training community workers have been to detect fistula and refer it to the centers where treatment is offered – those women who reported that their fistulas were related to FGM/C seemed to do so because of direct conversations they had with health workers after developing the fistula – monitoring in hospital training and counseling women and helping them and integrate them in the community – equipping community representatives with the knowledge and skills to educate the community on the consequences of HTPs and to stimulate discussion	Training and Education	**Community involvement**	

— worked to improve community attitudes toward birth spacing and caring for pregnant and delivering women — promoting preparedness for the event of delivery complications and by encouraging people to openly discuss the benefits of family planning			
— Measures to improve health-system's response including improved access to emergency obstetric care, incorporating safe and timely intervention for women presenting with obstructed labour have been suggested in the literature24	policy development		
— counseling families against the practices and reporting any likely cases — promotion of community discussions on prevention of harmful practices such as gender-based violence, female genital mutilation, and early marriage — promoting Medicalization of FGM/C — developed community capacity and commitment to monitoring and reporting the occurrence of HTPs such as early marriage and FGM —	preventing Harmful traditional practices		

Coded data	sub-category	main category	main theme.
- improve of quality of information for antenatal care - encourage women to deliver in hospital - improve screening of foetal size and pelvic assessment to plan for upcoming complications - use clinical encounters for health education and good - Target women with low-level or no education to educate need for maternal services - Encourage pregnant women to save money for emergency transport use	Antenatal care	clinical interventions	**Interventions which could be done.**
- pelvic assessment and labour monitoring using a partograph - intensify labour monitoring using a partograph - encourage women to deliver in hospital. - Improve on knowledge about management of labour process using partograph - use of partograph	Labour management		

- Create links with TBAs and educate about labour management and possible complications - encourage pregnant women in labor to seek early medical attention			
- empower women and girls through education - promote sexual health education and counselling - Prevent early marriage - Educate girls - Address stigma of fistula and misconceptions	preventing teenage pregnancies	population-based intervention	
- Educate women about need for antenatal services - Educatecommunity to raise awareness about risk factors - Creating awareness in the community and families about OF - Educate community health extension workers to identify and facilitate referral for Health education campaigns targeting men - Educate influential community representatives against HTPs	Training and Education		
- Policy recommendations to fund transport schemes - Educate women - advocate for the training of adequate numbers of midwives and nurses - improving quality and access to emergency obstetric care translates to fewer deaths and illnesses including obstetric fistula. - need for well-trained community midwives and nurses - Policy recommendations to awareness campaigns - emphasize the critical need for surgical building healthy public policy and creating supportive environments	policy development		
- encourage holistic approach to care - eradicate harmful practices and strengthen maternal and newborn health programmes - promotion of community discussions on prevention of harmful practices - Advocate for employment strategies including involving community education and social change.	Preventing Harmful Traditional Practices		

- address negative cultural practices that contribute to obstetric fistula - mobilised the community to monitor and report HTPs			